

# Oil and Gas Industry Air Shed Management

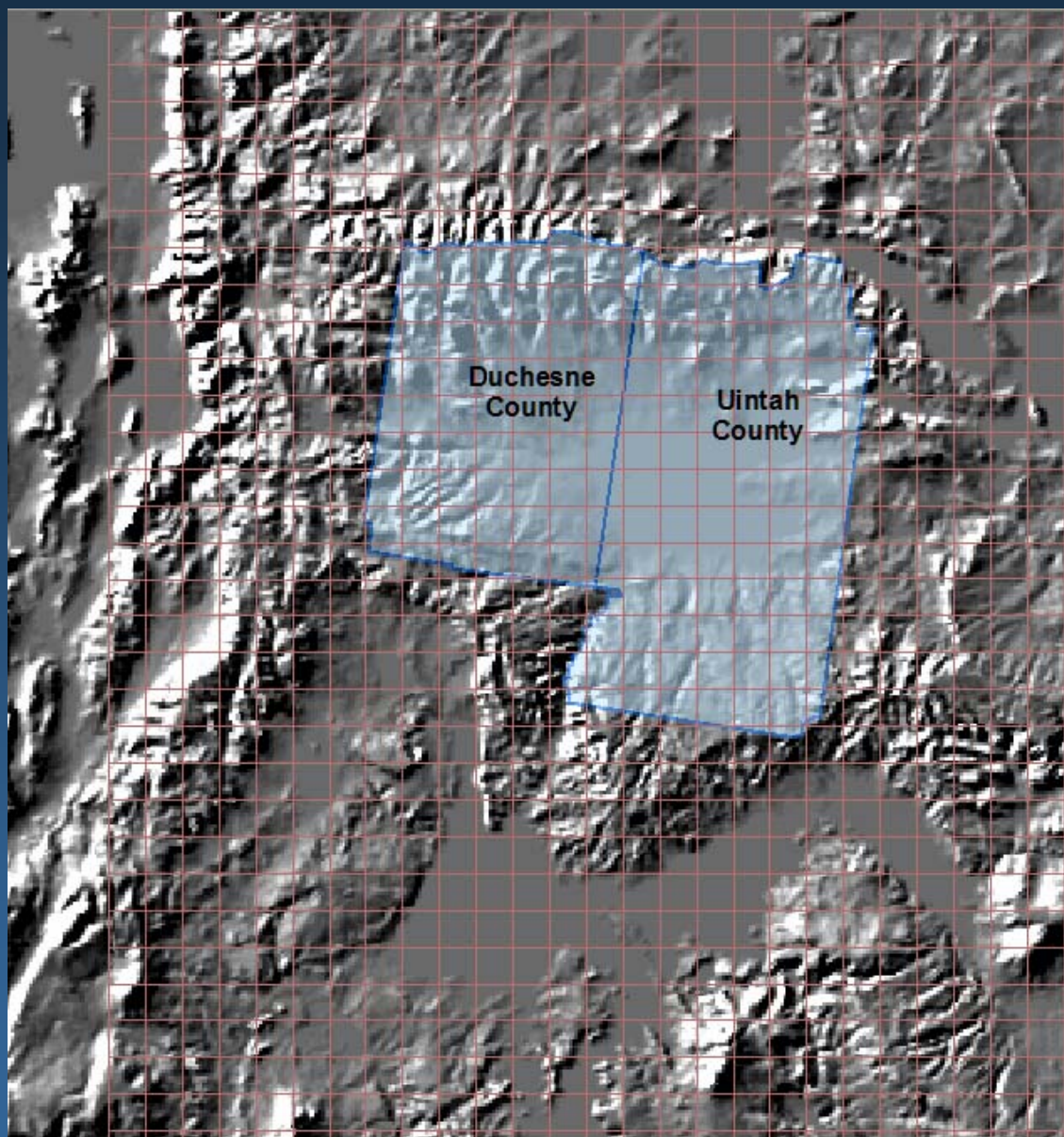
## UDAQ Modeling Strategy

January 9, 2007

*Department of Environmental Quality*

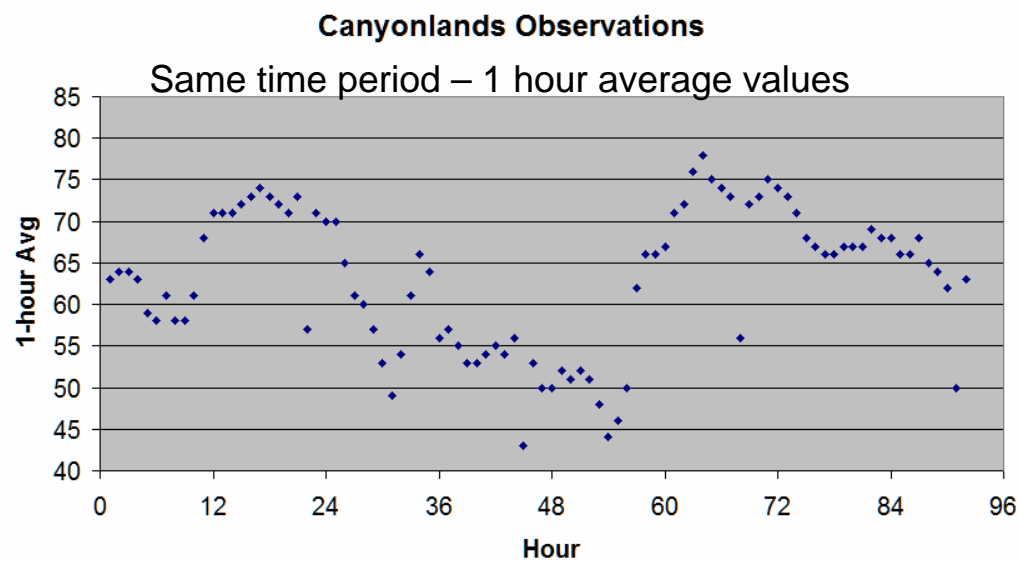
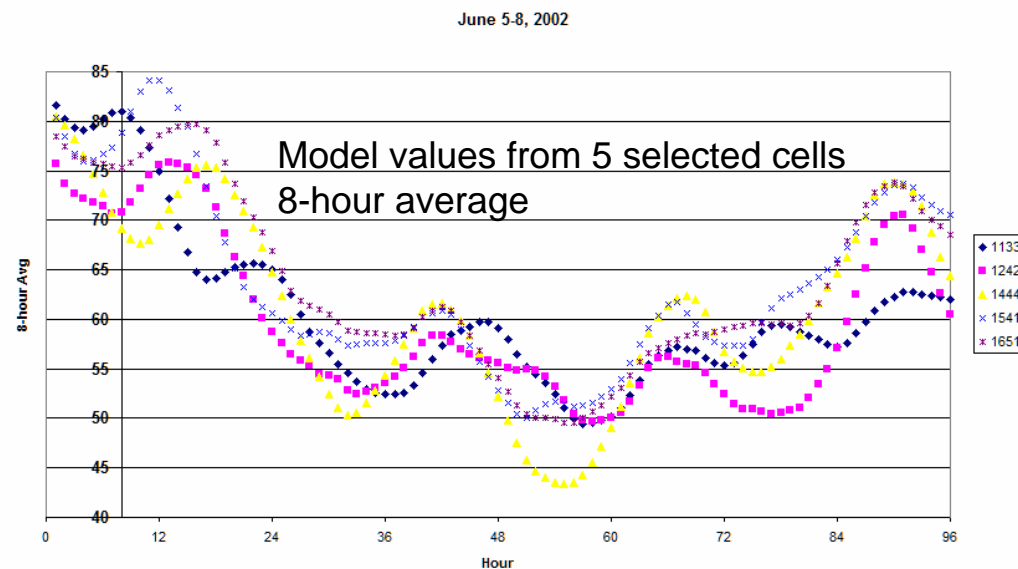
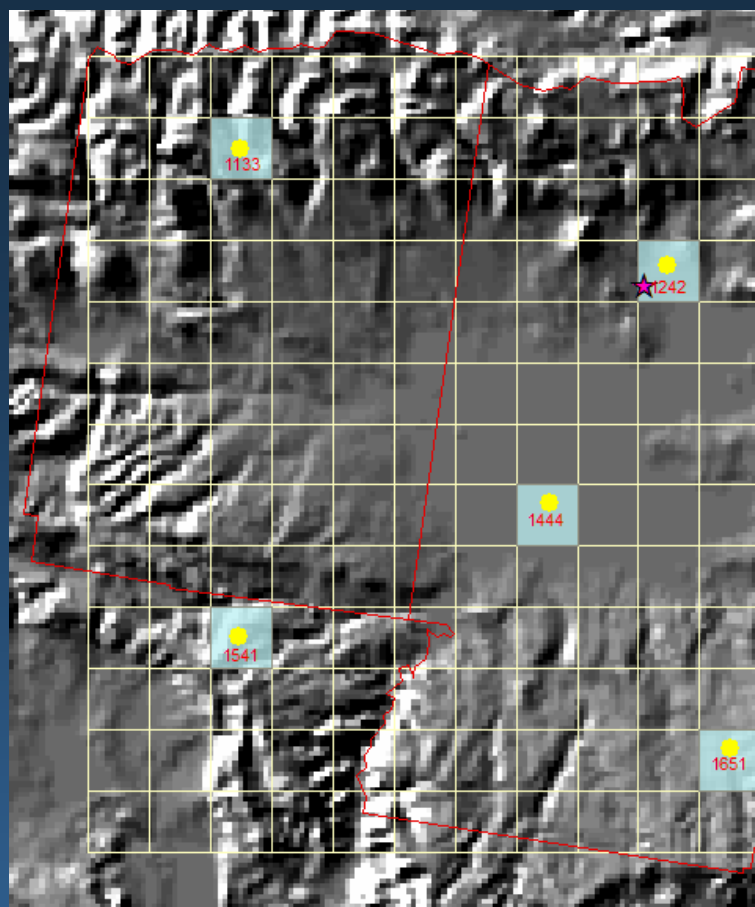


*Division of Air Quality*

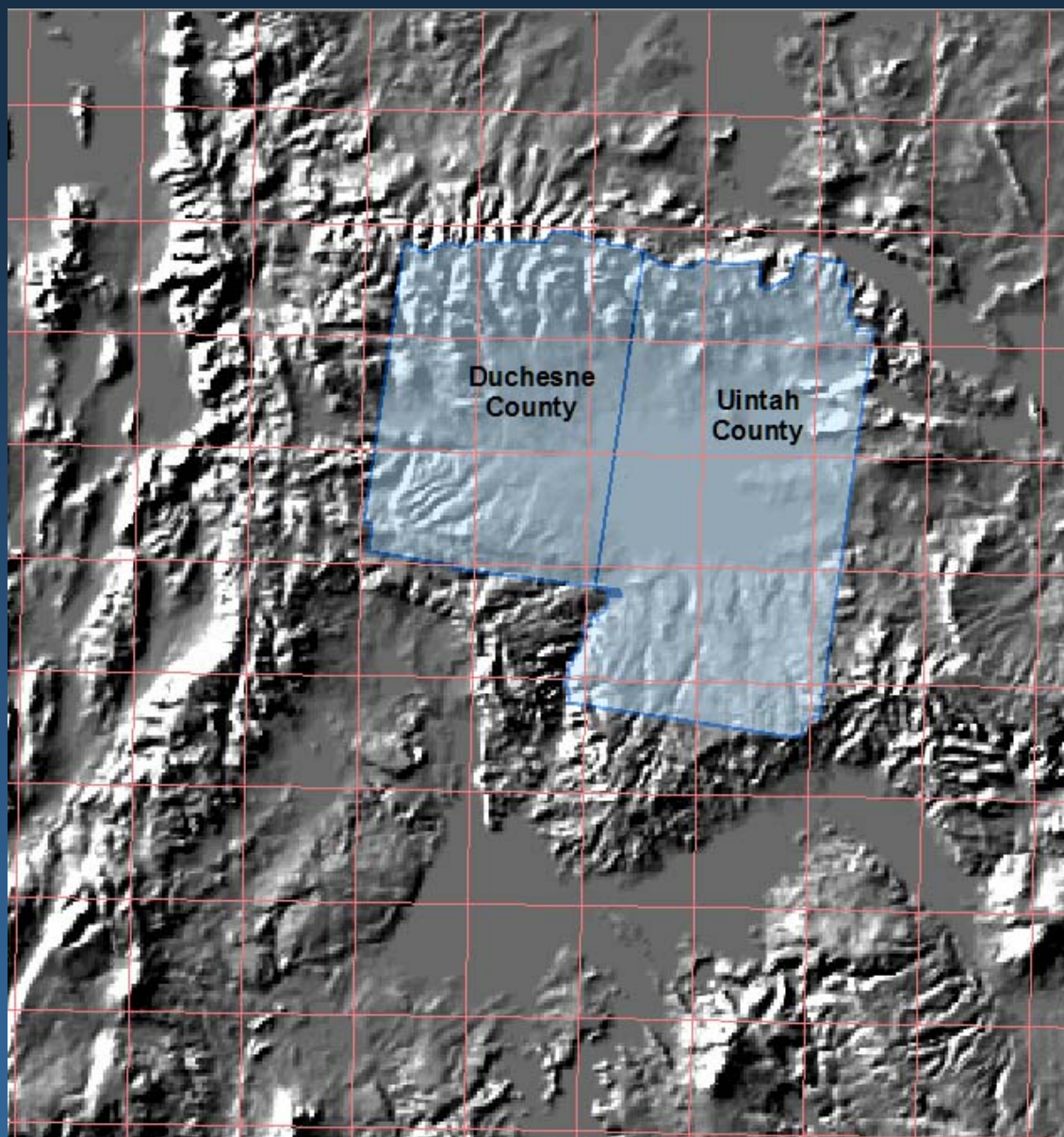


## WRAP Modeling Domain 12 kilometer resolution

- Single model run produced by WRAP
- Model output tested for this area with good results
- Not the latest inventory
- Will not be run at this resolution for 2018



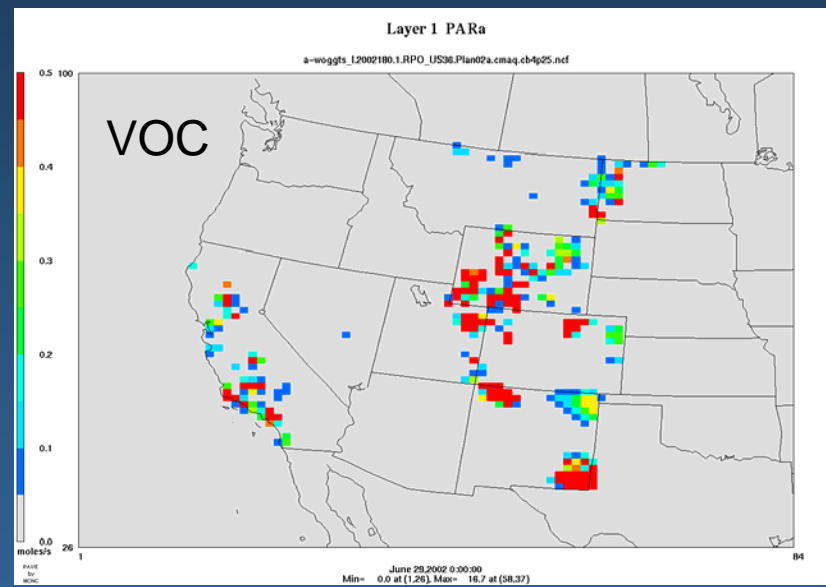
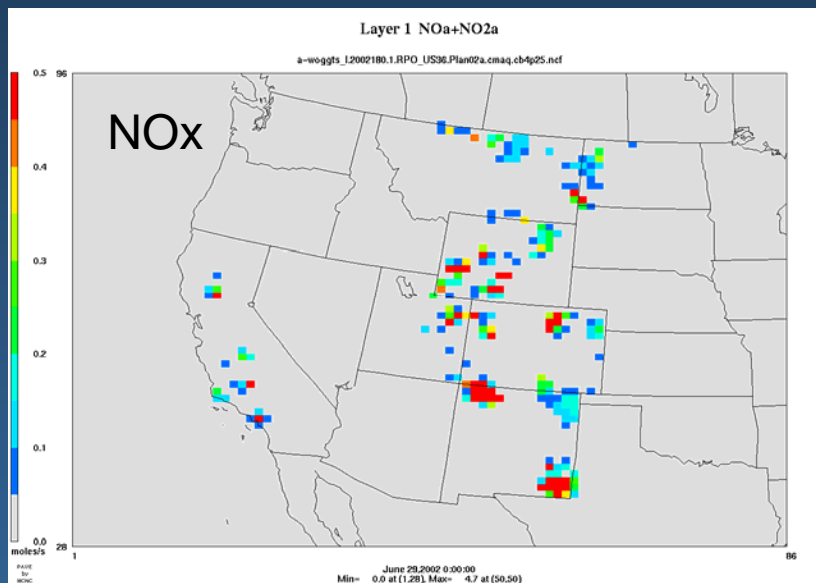




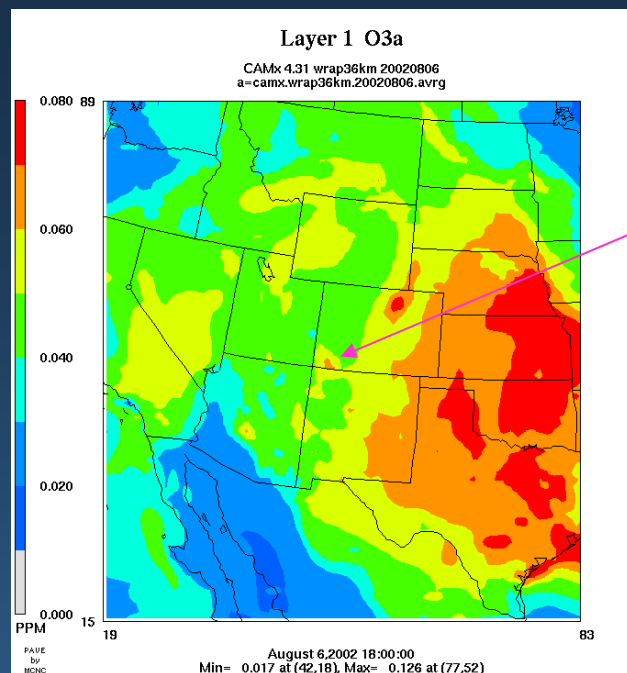
## **WRAP Modeling Domain 36 kilometer resolution**

- Latest modeling with most up-to-date inventory = 2002
- WRAP will model with emissions projected to 2018
- This will provide a coarse-resolution view of the effect of projected growth

# Emissions from oil and gas in WRAP region



### Example summertime ozone, 6 August 2002

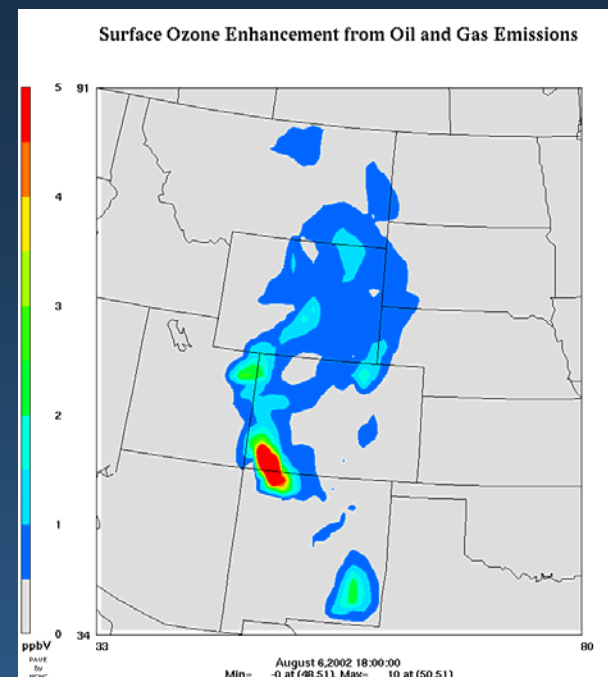


Mesa Verde NP:  
65 ppb max hourly  
concentration

**Preliminary CAMx  
assessment of oil and gas  
emissions on ozone in the  
Four Corners region**

*Mike Barna - Air Resources  
Division, National Park Service*

### Example ozone increase from O&G emissions, August 2002



**Largest impacts from O&G emissions on regional ozone  
occur in Four Corners at Mesa Verde NP on 6 August 2002**

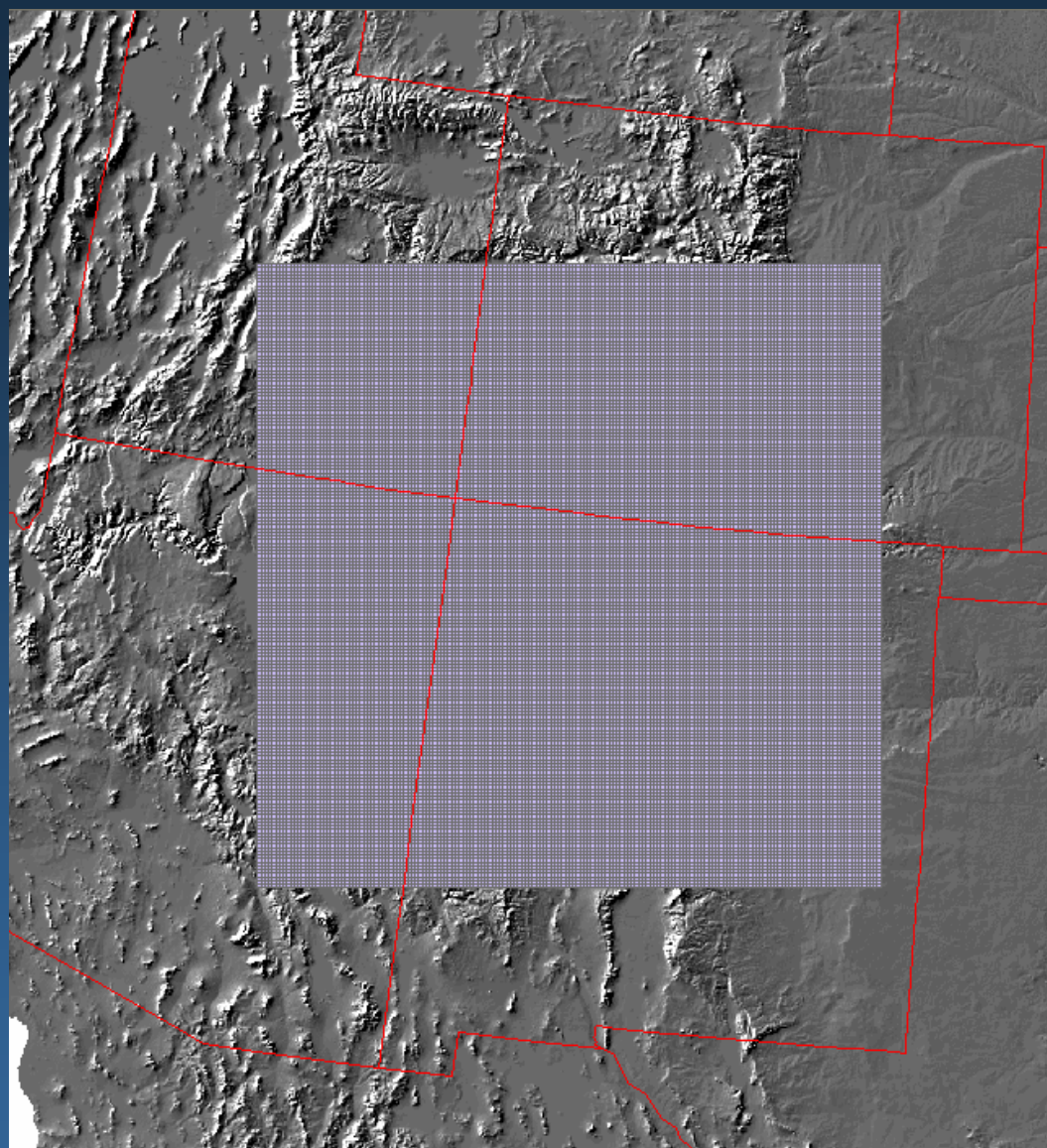
- 8 ppb ozone enhancement
- Peak ozone concentrations of 65 ppb

*Department of Environmental Quality*



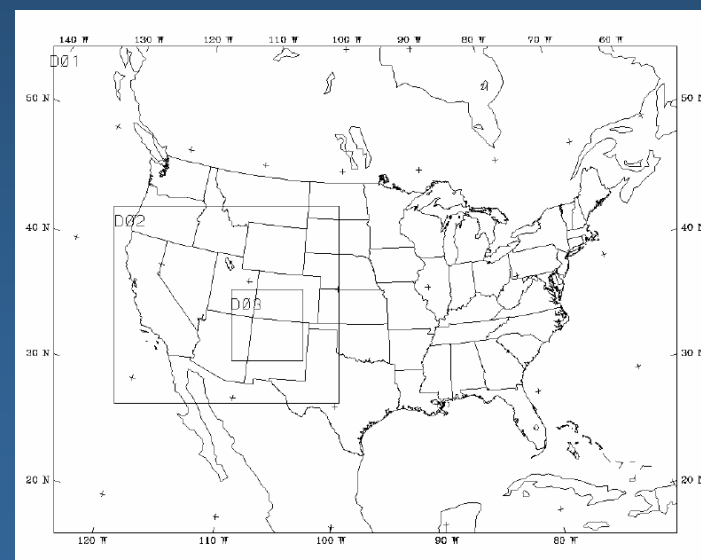
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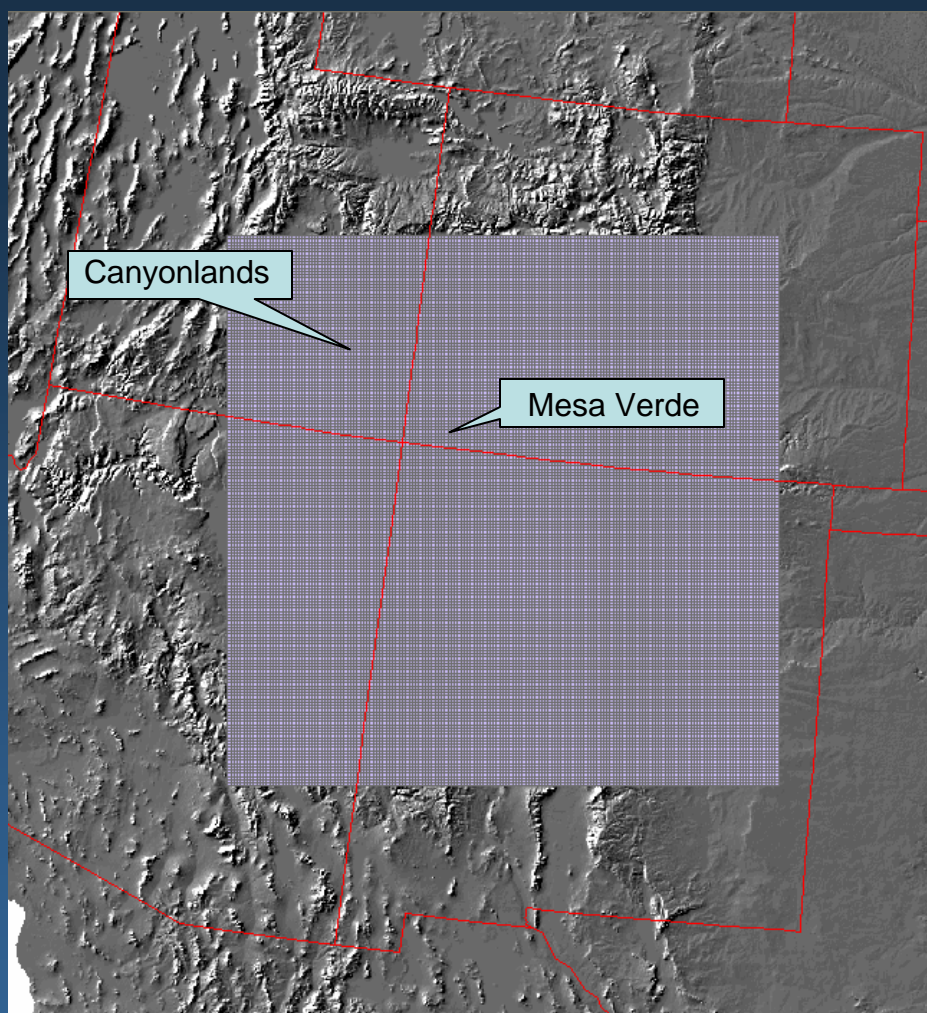




## Mitigation Assessment Modeling Four Corners Air Quality Task Force

- 4 kilometer resolution
- Air quality modeling results due mid-summer, 2007
- Will use updated 2005 inventory, will model projected 2018 inventory and include several mitigation strategies defined by the task force





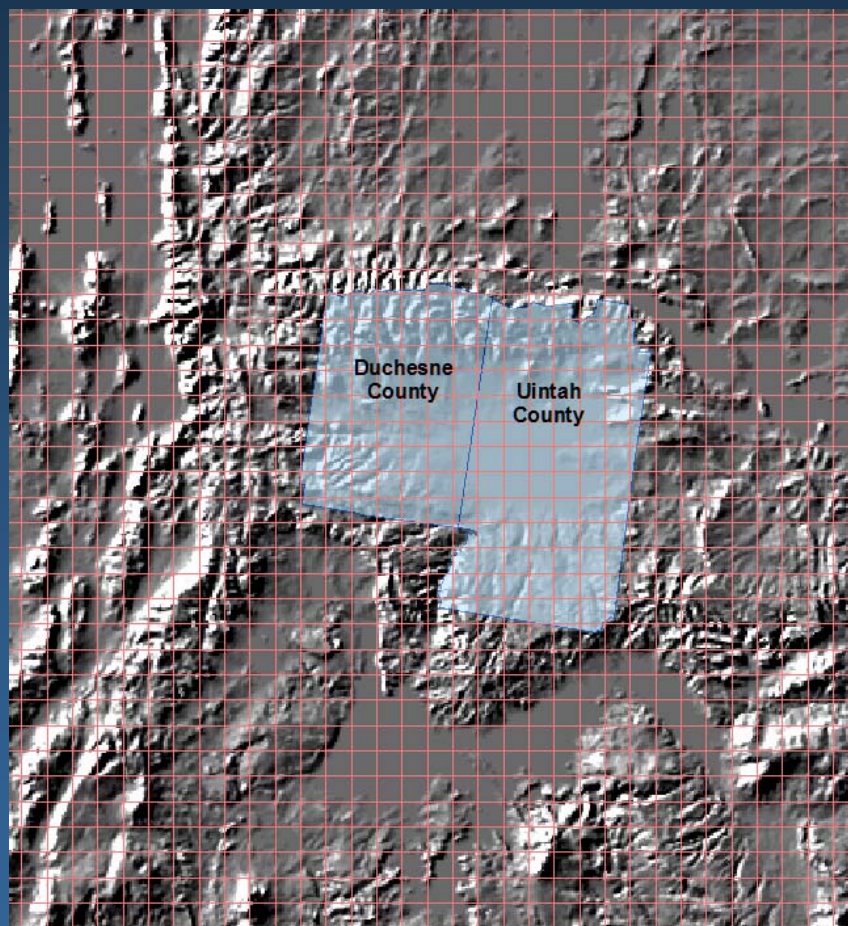
4 kilometer modeling will provide most refined results to date

Assessment of impacts at Mesa Verde and Canyonlands will provide guidance for the usefulness of high resolution modeling in the Uintah Basin



## Potential to increase model resolution for better characterization of emissions and transport in the Uintah Basin

12 kilometer grid cells



Nested 4 kilometer grid cells

